[7590-01-P]

NUCLEAR REGULATORY COMMISSION

[Docket No. 50-483; NRC-2022-0139]

Union Electric Company, dba Ameren Missouri, Callaway Plant, Unit No. 1

AGENCY: Nuclear Regulatory Commission.

ACTION: Environmental assessment and finding of no significant impact; issuance.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is issuing an environmental assessment (EA) prepared under the National Environmental Policy Act of 1969 (NEPA) and NRC's regulations. This EA summarizes the results of the NRC staff's environmental review, which evaluates the potential environmental impacts of granting exemptions from NRC regulations and issuing an associated license amendment in response to a request from the Union Electric Company, doing business as (dba) Ameren Missouri (Ameren, the licensee) for Renewed Facility Operating License NPF-30, for the Callaway Plant, Unit No. 1 (Callaway). Specifically, the licensee is seeking a license amendment and regulatory exemptions that would, if granted, allow the licensee to use both a deterministic and risk-informed approach to address safety issues discussed in Generic Safety Issue (GSI)-191, "Assessment of Debris Accumulation in PWR [Pressurized Water Reactor] Sump Pump Performance" and to close Generic Letter (GL) 2004-02, "Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized-Water Reactors." The NRC staff is issuing a final EA and finding of no significant impact (FONSI) associated with the proposed exemptions.

DATES: The EA and FONSI referenced in this document is available on **[INSERT DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

ADDRESSES: Please refer to Docket ID **NRC-2022-0139** when contacting the NRC about the availability of information regarding this document. You may obtain publicly available information related to this document using any of the following methods:

- **Federal Rulemaking Website:** Go to https://www.regulations.gov and search for Docket ID **NRC-2022-0139**. Address questions about Docket IDs in Regulations.gov to Stacy Schumann; telephone: 301-415-0624; email: Stacy.Schumann@nrc.gov. For technical questions, contact the individual listed in the "For Further Information Contact" section of this document

- **NRC's Agencywide Documents Access and Management System (ADAMS):** You may obtain publicly available documents online in the ADAMS Public Documents collection at https://www.nrc.gov/reading-rm/adams.html. To begin the search, select "Begin Web-based ADAMS Search." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by email to PDR.Resource@nrc.gov. For the convenience of the reader, instructions about obtaining materials referenced in this document are provided in the "Availability of Documents" section.

- **NRC's PDR:** You may examine and purchase copies of public documents, by appointment, at the NRC's PDR, Room P1 B35, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852. To make an appointment to visit the PDR, please send an email to PDR.Resource@nrc.gov or call 1-800-397-4209 or 301-415-4737, between 8:00 a.m. and 4:00 p.m. Eastern Time (ET), Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: Mahesh Chawla, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; telephone: 301-415-8371, email: Mahesh.Chawla@nrc.gov.

SUPPLEMENTARY INFORMATION:

I. Introduction

The NRC is considering a request to grant certain regulatory exemptions and issue a license amendment for Renewed Facility Operating License NPF-30, issued to Ameren, for Callaway, located in Callaway County, Missouri. The regulatory exemptions and associated license amendment, if granted, would allow Ameren to incorporate the

use of a risk-informed approach to address safety issues discussed in GSI-191 and respond to GL 2004-02. Pursuant to Section 51.21 of title 10 of the *Code of Federal Regulations* (10 CFR), "Criteria for and identification of licensing and regulatory actions requiring environmental assessments," the NRC has prepared an EA summarizing the findings of the NEPA review of the proposed action. The NRC concluded that the proposed action will have no significant environmental impact. In accordance with 10 CFR 51.31(a), the NRC has determined not to prepare an environmental impact statement for the proposed licensing actions and is issuing a FONSI.

The NRC established GSI-191 to determine whether the transport and accumulation of debris from a loss-of-coolant accident (LOCA) in the PWR containment structure would impede the operation of the emergency core cooling system (ECCS) or containment spray system (CSS). A LOCA within the containment structure is assumed to be caused by a break in the primary coolant loop piping. Water discharged from the pipe break and debris would collect on the containment structure floor and within the containment emergency sump. During this type of accident, the ECCS and CSS would initially draw cooling water from the refueling water storage tank. However, realigning the ECCS pumps to the containment emergency sump would provide long-term cooling of the reactor core. Therefore, successful long-term cooling depends on the ability of the containment emergency sump to provide adequate flow to the residual heat removal (RHR) recirculation pumps for extended periods of time.

One of the concerns addressed by the implementation of GSI-191 is that debris material, such as insulation installed on piping and components, within the containment structure, could be dislodged by a jet of high-pressure water and steam during the LOCA. Water, along with debris, would accumulate at the bottom of the containment structure and flow towards the emergency sump pumps. Insulation and other fibrous debris material could block the emergency sump screens and suction strainers, which in turn could prevent the ability of the containment emergency sump to provide adequate water flow to the RHR pumps (for more information, see NUREG-0897, "Containment

Emergency Sump Performance: Technical Finding Related to Unresolved Safety Issue A-43," Revision 1).

The NRC issued GL 2004-02 to address this safety concern by requesting PWR licensees, pursuant to 10 CFR 50.54(f), to use an NRC-approved methodology to perform a "mechanistic evaluation of the potential for the adverse effects of post-accident debris blockage and operation with debris-laden fluids to impede or prevent the recirculation functions of the ECCS and CSS following all postulated accidents for which the recirculation of these systems is required" and submit this information to the NRC for evaluation.

In 2012, the NRC staff developed options for resolution of GSI-191, which are discussed in SECY-12-0093, "Closure Options for Generic Safety Issue 191, Assessment of Debris Accumulation on Pressurized-Water Reactor Sump Performance," dated July 9, 2012. The licensee has proposed to use both a deterministic method, with plant-specific testing, and a risk-informed approach to demonstrate compliance with 10 CFR 50.46, "Acceptance criteria for emergency core colling systems for light-water nuclear power reactors," and 10 CFR part 50, appendix A, General Design Criteria (GDC) 35, "Emergency core cooling," GDC 38, "Containment heat removal," and GDC 41, "Containment atmosphere cleanup," and to resolve GSI-191 for Callaway. Because, historically, the NRC staff has not allowed licensees to use a risk-informed approach to show compliance with the requirements of 10 CFR 50.46, the licensee requested exemptions from 10 CFR 50.46(a)(1) and GDC 35, 38, and 41, as well as an amendment to the associated technical specifications to allow the use of a risk-informed approach to resolve GSI-191. If approved, the proposed action would not authorize any modifications within the containment structure, physical changes to the ECCS, or other modifications to the plant. Rather, the proposed action would only allow the use of an alternate methodology to show compliance with the regulations that require the ECCS and CSS function during certain LOCA events.

II. Environmental Assessment

Description of the Proposed Action

The proposed action as requested by the licensee is to grant certain regulatory exemptions and amend Facility Operating License NPF-30. The regulatory exemptions would allow Ameren to change the licensing basis LOCA analysis identified in the updated final safety analysis report to use a risk-informed approach to address safety issues discussed in GSI 191 and to close GL 2004 02. If approved, no physical modifications to the nuclear plant or changes to reactor operations involving the ECCS would be required. The proposed action is in response to the licensee's application dated March 31, 2021, as supplemented by letters dated May 27, 2021; July 22, 2021; August 23, 2021; October 7, 2021; January 27, 2022; March 8, 2022; and May 26, 2022.

Need for the Proposed Action

The proposed action is needed because, as the holder of Renewed Facility Operating License No. NPF-30, Ameren is expected to address the safety issues discussed in GSI-191 and to close GL 2004-02 for Callaway. Consistent with SECY-12-0093, the licensee chose an approach, which requires, in part, that Ameren request that the NRC amend the renewed facility operating license and grant certain regulatory exemptions for Callaway.

Environmental Impacts of the Proposed Action

Callaway is located on an approximately 7,354-acre (2,976 hectare) site in Callaway County, Missouri, approximately 10 miles (16 kilometers) southeast of Fulton, Missouri, and 80 miles (129 kilometers) west of the St. Louis metropolitan area.

Callaway consists of a single four-loop Westinghouse PWR unit. The reactor core of the unit heats water, which is pumped to four steam generators, where the heated water is converted to steam. The steam is then used to turn turbines, which are connected to electrical generators that produce electricity. A simplified drawing of a PWR can be viewed at https://www.nrc.gov/reactors/pwrs.html.

The reactor, steam generators, and other components are housed in a concrete and steel containment structure (building). The containment structure is a reinforced

concrete cylinder with a concrete slab base and hemispherical dome. A welded steel liner is attached to the inside face of the concrete shell to ensure a high degree of leak tightness. In addition, the 4-foot (1.2-meter)–thick concrete walls of the containment structure serve as a radiation shield. Additional information on the plant structures and systems, as well as the environmental impact statement for license renewal, can be found in NUREG-1437, Supplement 51, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants: Supplement 51 Regarding Callaway Plant, Unit 1: Final Report."

Radiological and non-radiological impacts on the environment that may result from granting the regulatory exemptions and issuing the license amendment are summarized in the following sections.

Non-Radiological Impacts

No changes would be made to structures or land use within the Callaway site as a result of the proposed action, and non-radiological liquid effluents or gaseous emissions would not change. In addition, the license amendment and regulatory exemptions would not result in any changes to the use of resources or create any new environmental impacts. Therefore, there would be no non-radiological impacts to environmental resources or any irreversible and irretrievable commitments.

Since granting the regulatory exemptions and issuing the license amendment would not result in environmental effects, there would be no non-radiological cumulative impact.

Radiological Impacts

Radioactive Gaseous and Liquid Effluents and Solid Waste

Callaway uses waste treatment systems to collect, process, recycle, and dispose of gaseous, liquid, and solid wastes that contain radioactive material in a safe and controlled manner within NRC and Environmental Protection Agency (EPA) radiation safety standards.

The license amendment and regulatory exemptions, if granted, would not require any physical change to the nuclear plant or reactor operations; therefore, there would be no changes to the plant radioactive waste treatment systems. A detailed description of the Callaway radioactive waste handling and disposal activities is presented in chapter 2.1.2 of Supplement 51 to NUREG-1437.

Radioactive Gaseous Effluents

The objectives of the Callaway gaseous waste management system (GWMS) are to process and control the release of radioactive gaseous effluents into the environment to be within the requirements of 10 CFR 20.1301, "Dose limits for individual members of the public," and to be consistent with the as low as reasonably achievable (ALARA) dose objectives set forth in Appendix I to 10 CFR part 50. The GWMS is designed so that radiation exposure to plant workers is within the dose limits in 10 CFR 20.1201, "Occupational dose limits for adults."

Granting the regulatory exemptions and issuing the license amendment would not require any physical changes to the nuclear plant or reactor operations that would affect the release of radioactive gaseous effluents into the environment; therefore, there would be no changes to the GWMS. The existing equipment and plant procedures that control radioactive releases to the environment would continue to be used to maintain radioactive gaseous releases within the dose limits in 10 CFR 20.1301 and the ALARA dose objectives in Appendix I to 10 CFR part 50.

Radioactive Liquid Effluents

The function of the Callaway liquid waste processing system (LWPS) is to collect and process radioactive liquid wastes to reduce radioactivity and chemical concentrations to levels acceptable for discharge to the environment or to recycle the liquids for use in plant systems. The principal objectives of the LWPS are to collect liquid effluents (wastes) that may contain radioactive material and to maintain sufficient processing capability so that liquid waste may be discharged to the environment below the regulatory limits in 10 CFR 20.1301 and consistent with the ALARA dose objectives

in Appendix I to 10 CFR part 50. The liquid effluent is routed through a monitor that measures the radioactivity and can automatically terminate the release in the event radioactivity exceeds predetermined levels. The liquid effluent is discharged from the plant into the Missouri River via a pipeline.

Granting the regulatory exemptions and issuing the license amendment would not require any physical change to the nuclear plant or reactor operations; therefore, there would be no changes to the LWPS. The existing equipment and plant procedures that control radioactive releases to the environment will continue to be used to maintain radioactive liquid releases within the dose limits in 10 CFR 20.1301 and the ALARA dose objectives in Appendix I to 10 CFR part 50.

Radioactive Solid Wastes

The function of the Callaway solid waste processing system (SWPS) is to process, package, and store the solid radioactive wastes generated by nuclear plant operations until they are shipped off site to a vendor for further processing or for permanent disposal at a licensed burial facility, or both. The storage areas have restricted access and shielding to reduce radiation rates to plant workers. The principal objectives of the SWPS are to package and transport the waste in compliance with NRC regulations in 10 CFR part 61, “Licensing Requirements for Land Disposal of Radioactive Waste,” and 10 CFR part 71, “Packaging and Transportation of Radioactive Material,” and the U.S. Department of Transportation regulations in 49 CFR parts 170 through 179; and to maintain the dose limits in 10 CFR 20.1201, 10 CFR 20.1301, and Appendix I to 10 CFR part 50.

The existing equipment and plant procedures that control radioactive solid waste handling would continue to be used to maintain exposures within the dose limits in 10 CFR 20.1201, 10 CFR 20.1301, and 10 CFR part, 50 appendix I. Therefore, there will be no changes to the SWPS and issuing the license amendment and granting the regulatory exemptions will not result in any physical changes to the nuclear plant or

reactor operations that would affect the release of radioactive solid wastes into the environment.

Occupational Radiation Doses

The license amendment and regulatory exemptions, if granted, would not require any physical change to the nuclear plant or changes to reactor operations; therefore, there would be no change to any in-plant radiation sources. In addition, no new operator actions would be implemented that could affect occupational radiation exposure. The licensee's radiation protection program monitors radiation levels throughout the nuclear plant to establish appropriate work controls, training, temporary shielding, and protective equipment requirements so that worker doses remain within the dose limits in 10 CFR part 20, "Standards for Protection Against Radiation," subpart C, "Occupational Dose Limits." The license amendment and regulatory exemptions would not change radiation levels within the nuclear plant and, therefore, there would be no increased radiological impact to the workers.

Offsite Radiation Dose

The primary sources of offsite dose to members of the public from Callaway are radioactive gaseous and liquid effluents. As discussed previously, there would be no change to the operation of Callaway radioactive GWMS and LWPS or their ability to perform their intended functions. Also, there would be no change to the Callaway radiation monitoring system and procedures used to control the release of radioactive effluents in accordance with radiation protection standards in 10 CFR 20.1301, 40 CFR part 190, "Environmental Radiation Protection Standards for Nuclear Power Operations," and the ALARA dose objectives in appendix I to 10 CFR part 50.

Based on this information, the offsite radiation dose to members of the public would not change and would continue to be within regulatory limits. Therefore, the license amendment and regulatory exemptions would not change offsite dose levels and, consequently, there would be no significant health effects from the proposed action.

Design-Basis Accidents

Design-basis accidents at Callaway, are evaluated by both the licensee and the NRC to ensure that the unit would continue to withstand the spectrum of postulated accidents without undue hazard to the public health and safety and to ensure the protection of the environment.

Separate from its environmental review, the NRC is evaluating the licensee's technical and safety analyses provided in support of the proposed action. The results of the NRC staff's safety review and conclusion will be documented in a publicly available safety evaluation. The NRC staff must conclude in its safety evaluation that taking the proposed action will (1) provide reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) provide reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (3) not be inimical to the common defense and security or to the health and safety of the public. The NRC will not take the proposed action absent such a safety conclusion.

Radiological Cumulative Impacts

The radiological dose limits for protection of the public and plant workers have been developed by the NRC and the EPA to address the cumulative impact of acute and long-term exposure to radiation and radioactive material. These dose limits are codified in 10 CFR part 20 and 40 CFR part 190.

Cumulative radiation doses are required to be within the limits set forth in the regulations cited in the previous paragraph. The license amendment and exemptions would not require physical changes to the plant or changes to plant activities; in-plant radiation sources would not change and offsite radiation dose to members of the public would not change. Therefore, the NRC staff concludes that there would be no significant cumulative radiological impact from the proposed action.

Radiological Impacts Summary

Based on these evaluations, the license amendment and exemptions would not result in any significant radiological impacts. Therefore, the safety evaluation must conclude that the proposed action will (1) provide reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) provide reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (3) not be inimical to the common defense and security or to the health and safety of the public. The NRC would not take the proposed action absent such a safety conclusion.

Environmental Impacts of the Alternatives to the Proposed Action

As discussed earlier, licensees have options for responding to GL 2004-02 and for demonstrating compliance with 10 CFR 50.46. Consistent with these options and as an alternative to the proposed action, the licensee could choose to remove and replace insulation within the reactor containment building. This alternative would require the physical removal and disposal of significant amounts of insulation from a radiation area within the reactor containment building, and the installation of new insulation less likely to impact sump performance.

The removal of the existing insulation from the containment building would generate radiologically contaminated waste. Ameren estimated that approximately 5,500 cubic feet (6.6 tons) of fiberglass insulation would have to be removed from the Callaway containment. The removed insulation would require special handling and packaging so that it could be safely transported from the site. The licensee would likely use existing facilities to process and store this material until it could be transported to a low-level radioactive or hazardous waste disposal site. Energy (fuel) would be expended to transport the insulation and land would be expended at the disposal site.

The removal of the old insulation and installation of new insulation would expose workers to radiation. Based on planning documents prepared in 2010, Ameren estimated that the expected total dose for replacing insulation in Callaway, would be

between 350 and 400 person-rem. This estimate was considered in line with estimates from other utilities impacted by this same issue. Ameren also indicated that this initial estimate would now likely be higher due to the intervening 12 years of continuous plant operation. The NRC reviewed NUREG-0713, Volume 41, "Occupational Radiation Exposure at Commercial Nuclear Power Reactors and Other Facilities: Fifty-Second Annual Report," and determined that Ameren's average baseline collective radiation exposure is approximately 22 person-rem. The additional 350 to 400-plus person-rem collective exposure would be shared across the entire work force involved with removing and reinstalling insulation. In SECY-12-0093, the NRC staff attempted to develop a total occupational dose estimate for the work involved in insulation removal and replacement associated with GSI-191. Due to uncertainties in the scope of work required to remove and replace insulation at a specific nuclear plant and other site-specific factors such as source term and hazardous materials, the NRC staff was unable to estimate the total occupational dose associated with this work. However, dose estimates were provided by the Nuclear Energy Institute (NEI) in a letter to the NRC dated March 30, 2012, based on information collected on occupational radiation exposures that have been, or could be, incurred during insulation removal and replacement. In the letter, NEI noted similar difficulties in estimating the potential amount of radiation exposure, but provided a "per unit" estimate of between 80 and 525 person-rem. Given uncertainties in the scope of work and other nuclear plant-specific factors such as source term and hazardous materials, the NRC staff found no basis to conclude that the NEI estimates were unreasonable. Accordingly, because Ameren's estimate of potential additional radiation exposure resulting from the alternative approach of removing and replacing insulation is consistent with the NEI estimated range, the NRC staff considers Ameren's estimate to be reasonable.

As stated in the "Occupational Radiation Doses" section of this document, Ameren's radiation protection program monitors radiation levels throughout the nuclear plant to establish appropriate work controls, training, temporary shielding, and protective

equipment requirements so that worker doses are expected to remain within the dose limits in 10 CFR 20.1201.

In addition, as stated in the “Offsite Radiation Dose” section of this document, Ameren also has a radiation monitoring system and procedures in place to control the release of radioactive effluents in accordance with radiation protection standards in 10 CFR 20.1301, 40 CFR part 190, and the ALARA dose objectives in appendix I to 10 CFR part 50. Therefore, radiation exposure to members of the public would be maintained within the NRC dose criteria in 10 CFR 20.1301, 40 CFR part 190, and the ALARA dose objectives of appendix I to 10 CFR part 50.

Based on this information, impacts to members of the public from removing and replacing insulation within the reactor containment building would not be significant. However, impacts to plant workers and the environment from implementing this alternative would be greater than implementing the proposed action.

Alternative Use of Resources

The proposed action would not involve the use of any different resources (e.g., water, air, land, nuclear fuel) not previously considered in NUREG-1437, Supplement 51.

Agencies and Persons Consulted

In accordance with its stated policy, on June 27, 2022, the NRC staff consulted with the State of Missouri official, Mr. Aaron Schmidt, regarding the environmental impact of the proposed action. The State of Missouri official has not provided any comments on the EA and FONSI.

III. Finding of No Significant Impact

The licensee requested to amend Renewed Facility Operating License No. NPF-30 to grant exemptions for Callaway, from certain requirements of 10 CFR 50.46(a)(1) and 10 CFR part 50, appendix A, GDC 35, 38, and 41. This proposed action would not significantly affect plant safety, would not have a significant adverse effect on the probability of an accident occurring, and would not have any significant radiological or

non-radiological impacts. It would also not result in any changes to radioactive effluents or emissions, exposures to nuclear plant workers and members of the public, or any changes to radiological and non-radiological impacts to the environment.

Consistent with 10 CFR 51.21, the NRC conducted an environmental review of the proposed action. Based on the EA included in Section II of this notice and incorporated by reference in this FONSI, the NRC staff finds that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the NRC has determined there is no need to prepare an environmental impact statement for the proposed action.

The NRC staff's evaluation considered the information provided in the licensee's application as supplemented, and the NRC staff's review of related environmental documents. Section IV of this notice lists documents related to the proposed action and includes information on the availability of the documents, including the related environmental document NUREG-1437, Supplement 51, which provides the latest environmental review of current operations and description of environmental conditions at Callaway.

This FONSI and other related environmental documents may be examined, and/or copied for a fee, at the NRC's PDR, located at One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852. Publicly available records are also accessible online in the ADAMS Public Documents collection at https://www.nrc.gov/reading-rm/adams.html. Persons who do not have access to ADAMS or who encounter problems in accessing the documents located in ADAMS should contact the NRC's PDR reference staff by telephone at 1-800-397-4209 or 301-415-4737, or by email to PDR.Resource@nrc.gov.

IV. Availability of Documents.

The documents identified in the following table are available to interested persons through one or more of the following methods, as indicated.

DOCUMENT	ADAMS ACCESSION NO.
U.S. Nuclear Regulatory Commission. Generic Letter 2004-02: “Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized-Water Reactors,” dated September 13, 2004.	ML042360586
U.S. Nuclear Regulatory Commission. NUREG-0897, “Containment Emergency Sump Performance: Technical Findings Related to Unresolved Safety Issue A-43, Revision 1, October 1985.	ML112440046
Ameren Missouri. Letter ULNRC-06526, "Request for License Amendment and Regulatory Exemptions for a Risk-Informed Approach to Address GSI-191 and Respond to GL 2004-02," dated March 31, 2021.	ML21090A184 (package)
Ameren Missouri. Letter ULNRC-06664, "Supplement to Request for License Amendment and Regulatory Exemptions for a Risk-Informed Approach to Address GSI-191 and Respond to GL 2004- 02 (LDCN 19-0014)," dated May 27, 2021.	ML21147A222
Ameren Missouri. Letter ULNRC-06651, "Supplement to Request for License Amendment and Regulatory Exemptions for a Risk-Informed Approach to Address GSI-191 and Respond to GL 2004- 02 (LDCN 19-0014)," dated July 22, 2021.	ML21203A192 (package)
Ameren Missouri. Letter ULNRC-06683, “Transmittal of Documents Identified from NRC Audit of License Amendment Request Regarding Risk-Informed Approach to Closure of Generic Safety Issue 191 (EPID L-2021-LLA-0059),” dated August 23, 2021.	ML21237A135 (package)
Ameren Missouri. Letter ULNRC-06692, "Third Supplement to Request for License Amendment and Regulatory Exemptions for a Risk-Informed Approach to Address GSI-191 and Respond to GL 2004- 02 (LDCN 19-0014)," dated October 7, 2021.	ML21280A378 (package)
Ameren Missouri Letter ULNRC-06690, "Fourth (Post-Audit) Supplement to Request for License Amendment and Regulatory Exemptions for a Risk-Informed Approach to Address GSI-191 and Respond to GL 2004-02 (LDCN 19-0014)," dated January 27, 2022.	ML22027A804 (package)
Ameren Missouri. Letter ULNRC-06721, "Fifth (Post-Audit) Supplement to Request for License Amendment and Regulatory Exemptions for a Risk-Informed Approach to Address GSI-191 and Respond to GL 2004-02 (LDCN 19-0014)," dated March 8, 2022.	ML22068A027 (package)

DOCUMENT	ADAMS ACCESSION NO.
Ameren Missouri. Letter ULNRC-06735, "Response to Request for Additional Information Regarding Request for License Amendment and Regulatory Exemptions for Risk-Informed Approach to Address GSI-191 and Respond to Generic Letter 2004-02," dated May 26, 2022.	ML22146A337 (package)
Nuclear Energy Institute. GSI-191 Dose Estimates, dated March 30, 2012.	ML12095A319
SECY-12-0093, "Closure Options for Generic Safety Issue - 191, Assessment of Debris Accumulation on Pressurized-Water Reactor Sump Performance," dated July 9, 2012.	ML121320270 (package)
SRM-SECY-12-0093, "Staff Requirements – SECY-12-0093 – Closure Options for Generic Safety Issue – 191, Assessment of Debris Accumulation on Pressurized-Water Reactor Sump Performance," dated December 14, 2012.	ML12349A378
U.S. Nuclear Regulatory Commission. NUREG-1437, Supplement 51, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants: Supplement 51 Regarding Callaway Plant, Unit 1: Final Report," October 2014.	ML14289A140
U.S. Nuclear Regulatory Commission. NUREG-0713, Volume 41, "Occupational Radiation Exposure at Commercial Nuclear Power Reactors and Other Facilities 2019: Fifty-Second Annual Report," April 2022.	ML22111A013

Dated: August 23, 2022.

For the Nuclear Regulatory Commission.

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